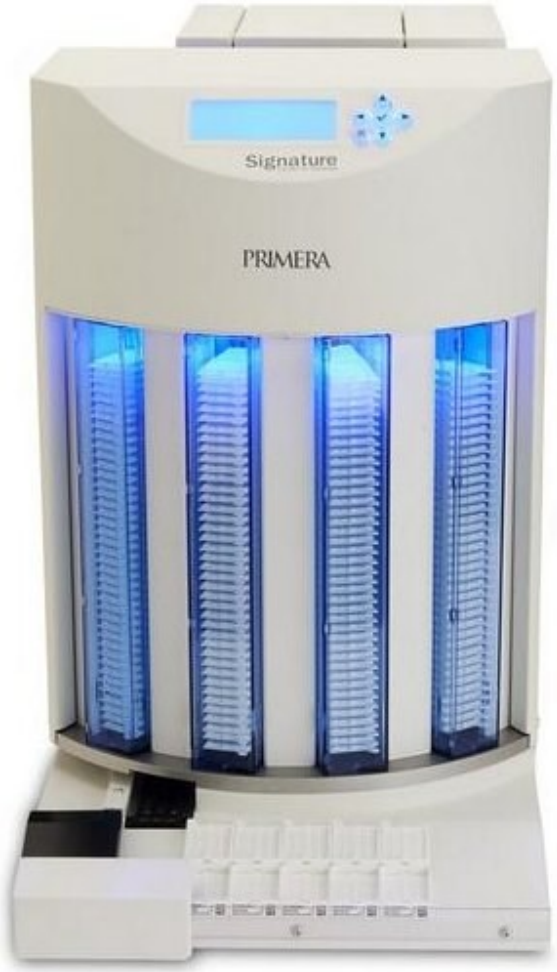
Signature
CASSETTE PRINTER

PRIMERA
TECHNOLOGY, INC.

Service Manual for Signature Cassette Printer Robotic (SCP-R)



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PRIMERA

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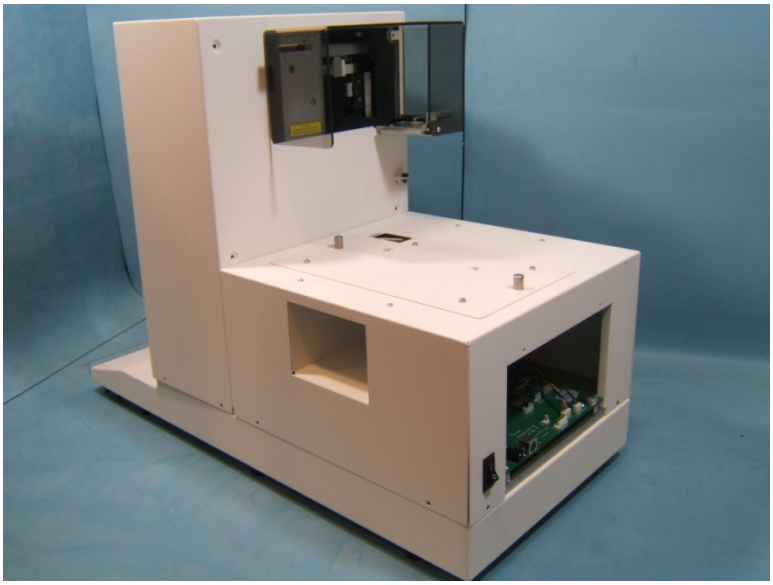
1 ▪ Removing Covers

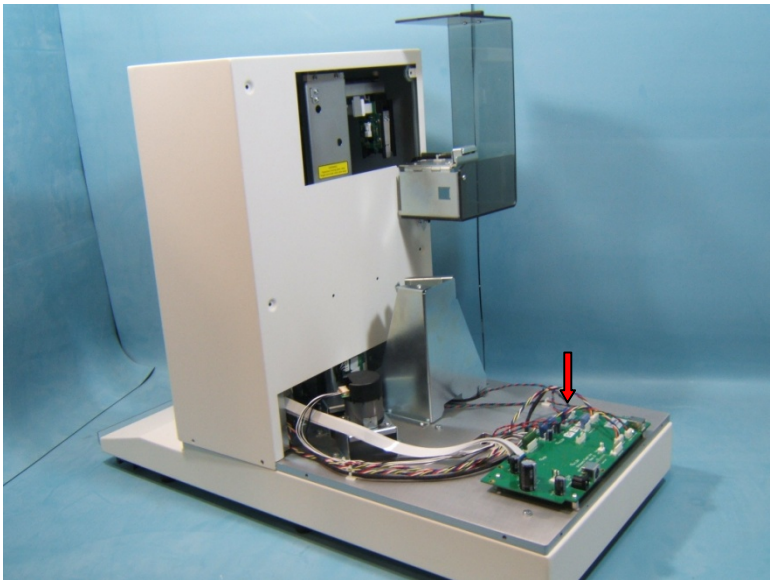
1.1

Unplug power switch from main board. Remove 6 screws securing printer platform bracket. Lift up cover.



1.2

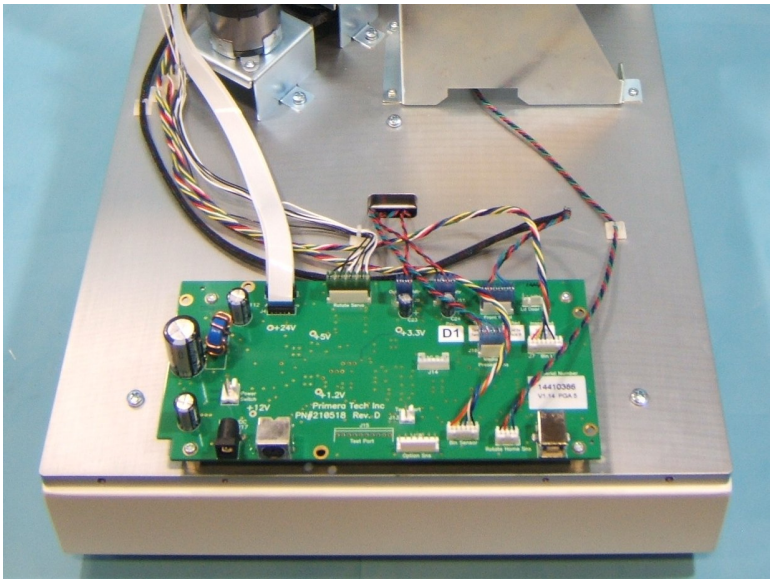
Unplug tower door sensor from main board. Unhook cable from any wire saddles and pull up and out from opening in tower cover. Remove 4 screws from back and 4 screws from sides of cover. Lift cover up and unplug control panel cable.



2 ▪ Replacing Main Board

2.1

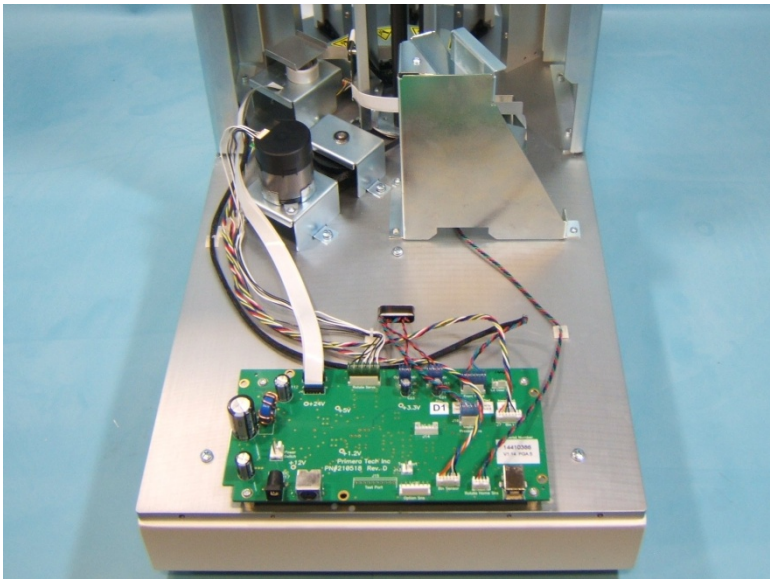
Unplug all cables. Remove and replace main board.



3 ▪ Picker Tower Calibration

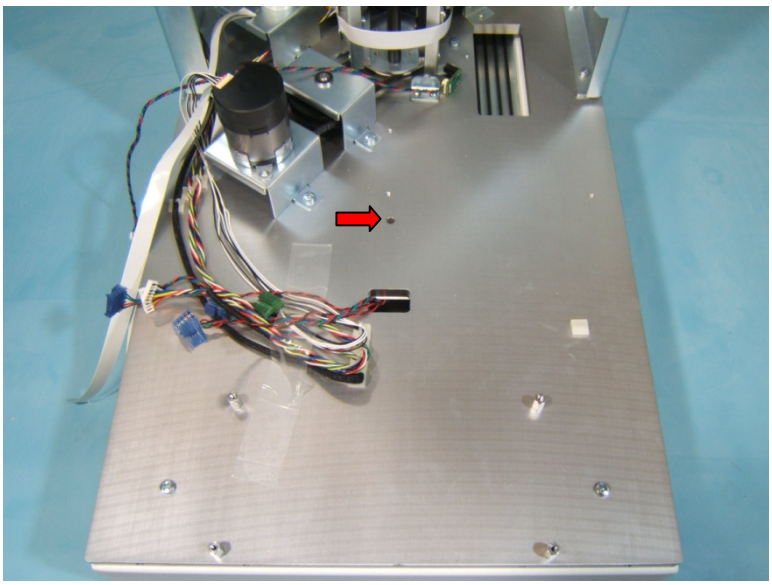
3.1

Unplug all cables. Remove main board. Remove 4 screws securing output chute.



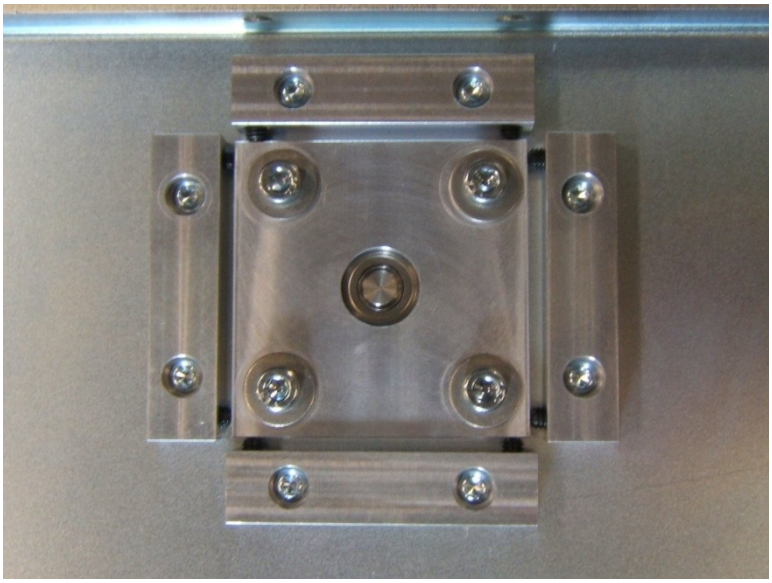
3.2

Pull all cables to left. Remove screw in center of base plate. Remove any wire saddles that may be in the way of square.



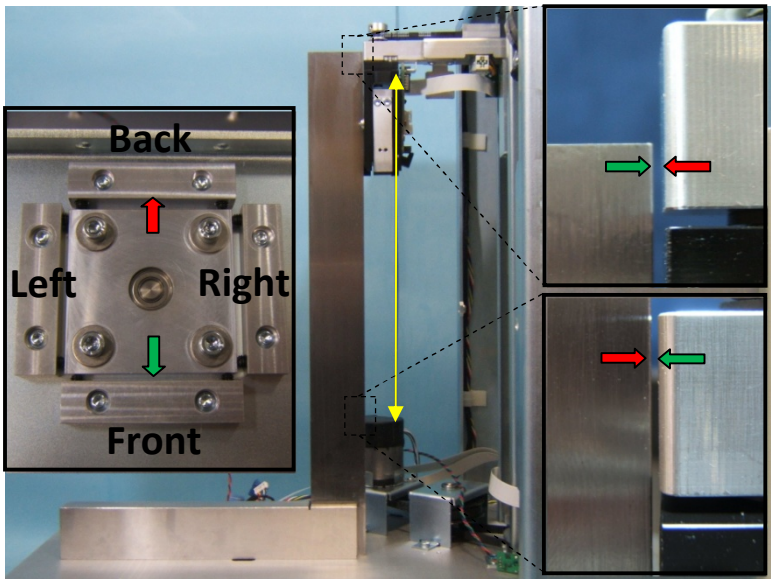
3.3

Adjusting position of picker alignment plate adjusts tilt of picker tower. To shift alignment plate, loosen 4 large screws securing plate. Equally turn both set screws counterclockwise on a block to move plate in that direction. Tighten set screws clockwise on opposite block. See the following steps to properly measure the adjustments.



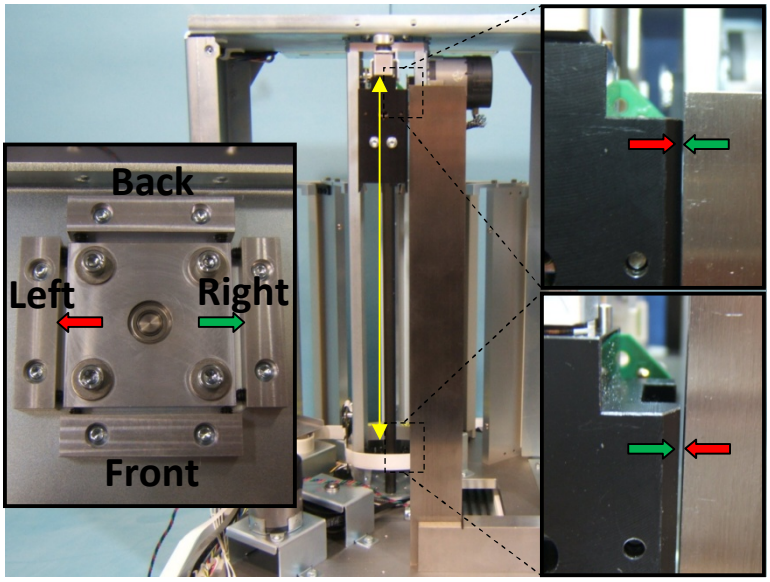
3.4

Rotate picker arm to point to the back. Set square up flush against end of picker arm. Slide picker straight up and down and compare size of gap at top and bottom. If necessary, correct tilt of picker tower by adjusting position of top plate. Move plate towards back to move top position closer to square. Move plate towards front to move bottom position closer to square.



3.5

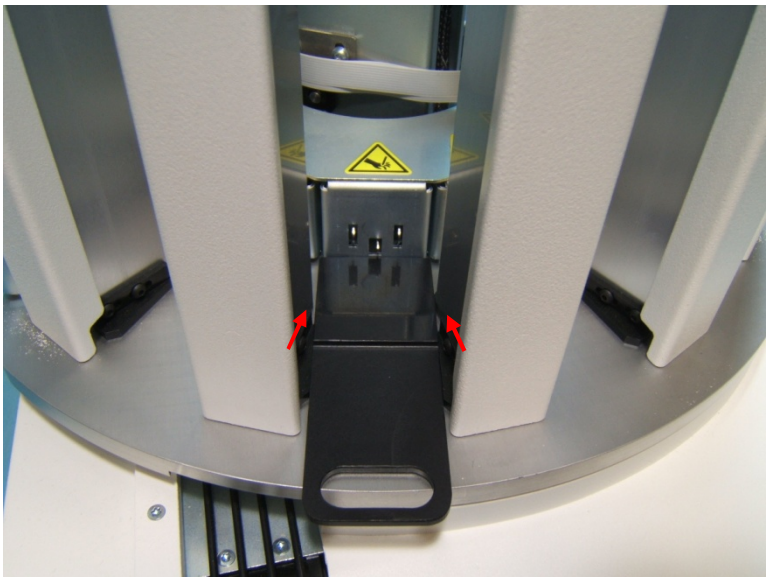
Set square up flush against side of picker arm. Slide picker straight up and down and compare size of gap at top and bottom. If necessary, correct tilt of picker tower by adjusting position of top plate. Move plate left to move top position closer to square. Move plate right to move bottom position closer to square. After tilt is corrected in both directions, tighten four screws on top plate.



4 ▪ Hopper Guides Adjustment

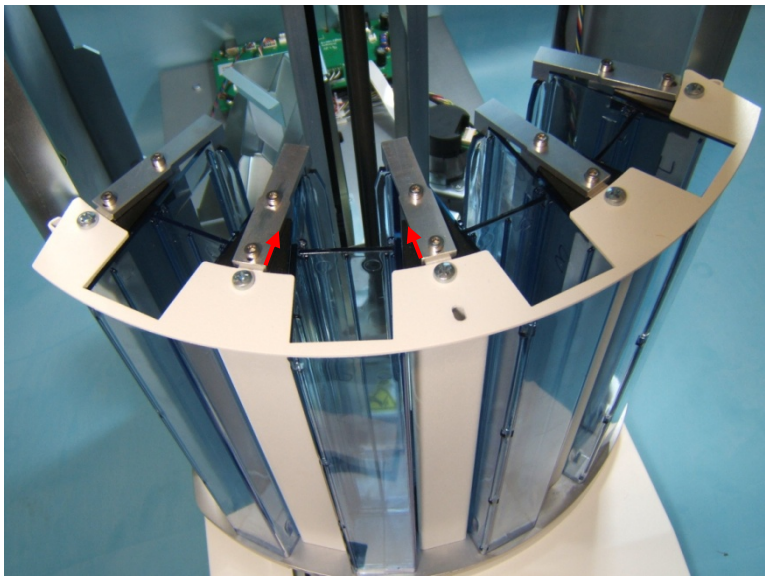
4.1

Allow magnets to snap fixture in and press down with a finger hold in place. Slide guides in so they are flush with fixture and tighten both screws to secure.



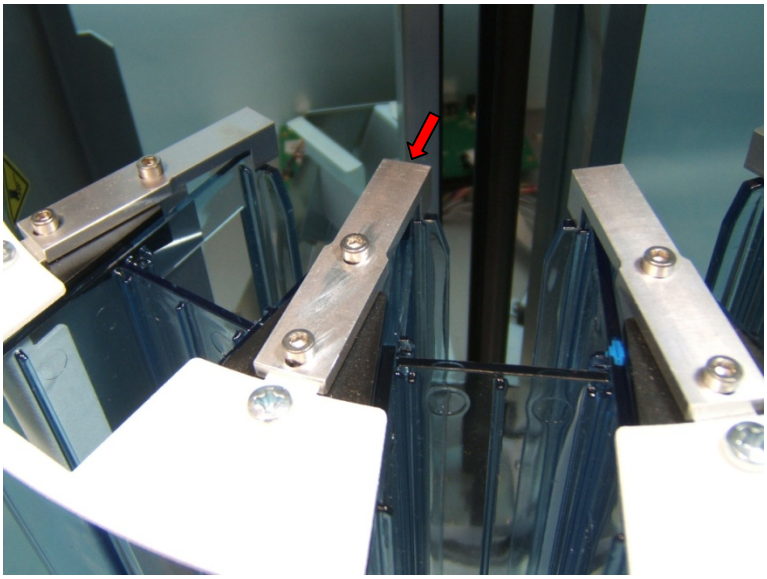
4.2

Place bins into unit. Slide guides in so they are flush with bins and tighten both screws to secure.



4.3

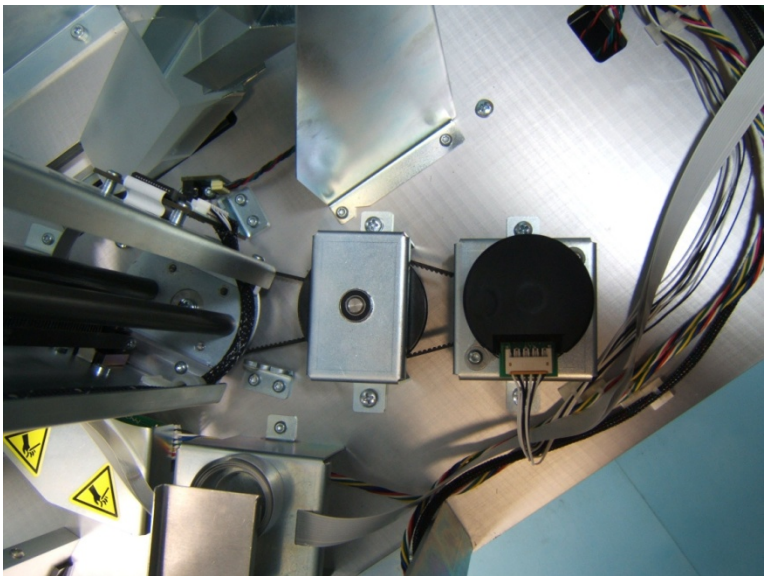
Loosen screws on cartridge alignment plates that need to be adjusted. Press in on plates while tightening screws, so they catch edges of bins and spread them open slightly.



5 ▪ Replacing Arm Rotation Motor

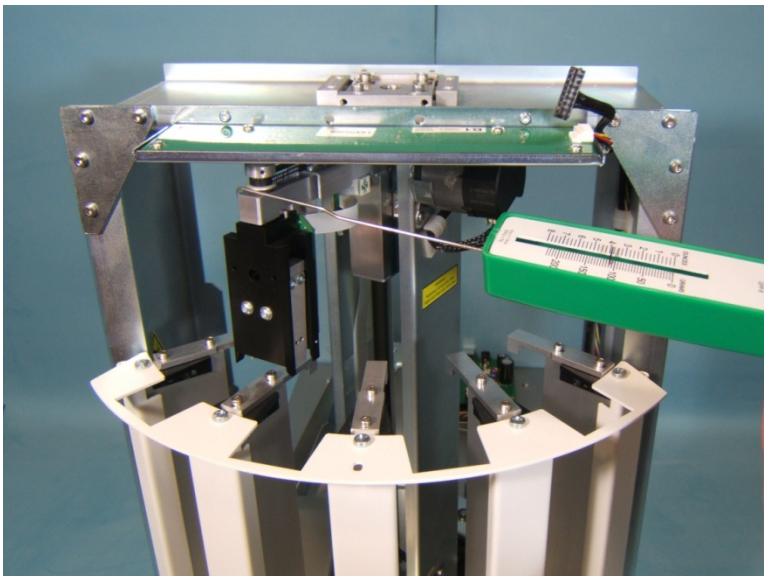
5.1

Remove 2 screws securing arm rotation motor bracket to base plate. Remove motor from bracket and replace. Pull motor out slightly to put light tension on belt while securing bracket to base plate.



5.2

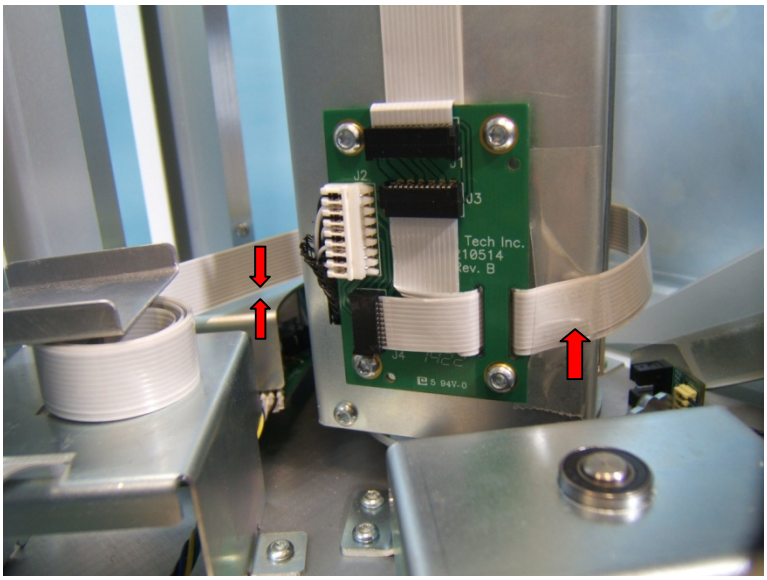
To check that there is not too much belt tension, use a scale and pull picker tower around a partial turn. The resistance should not be greater than 6 ounces.



6 ▪ Replacing Picker Tower Interface Board

6.1

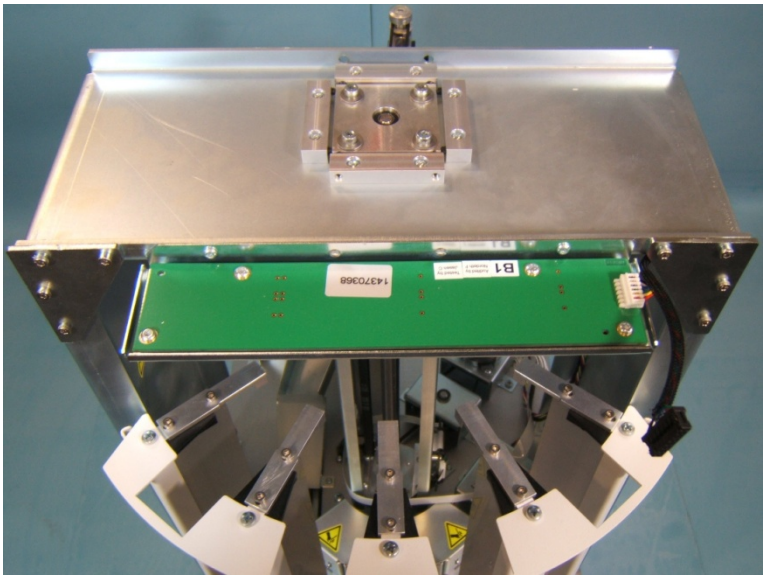
Remove 4 screws securing picker tower interface board. Disconnect ribbon cables and replace board. Slightly lift ribbon cables up and secure with tape. Rotate tower and verify ribbons do not rub on input sensors cover. If necessary, adjust cables and reapply tape.



7 ▪ Replacing Bin LEDs Board

7.1

Unplug cable. Remove 4 screws securing bin LEDs board. Replace board.



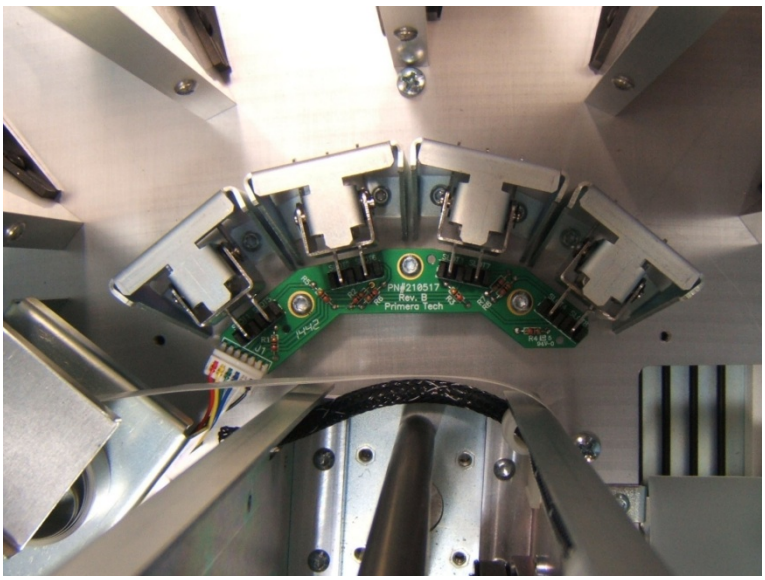
8 ▪ Replacing Bin Sensors Board

8.1

Remove 2 screws securing input sensors cover.

8.2

Unplug cable. Remove 3 screws securing bin sensor board. When replacing with new board, make sure all flags are set in sensors.



9 ▪ Replacing Rotate Home Sensor

9.1

Remove 2 screws securing sensor. Replace sensor and plug into main board.

10 ▪ Replacing Control Panel

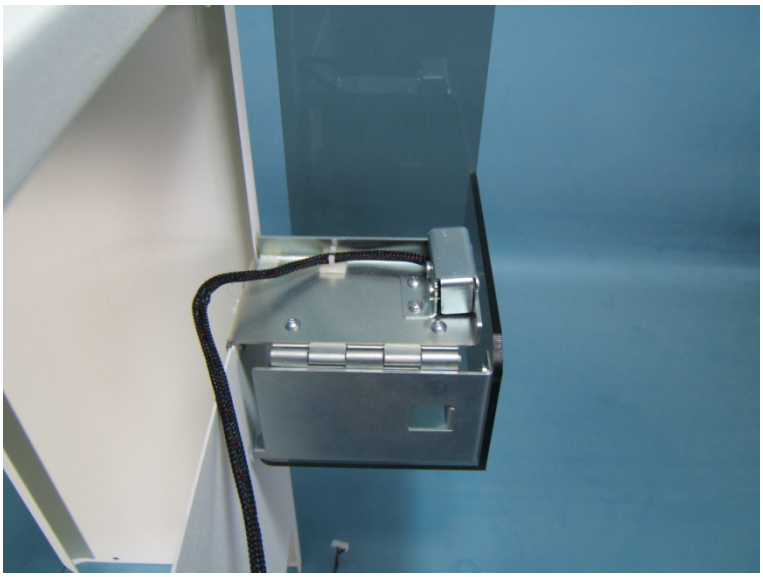
10.1

Tip tower cover upside down. Use 3/16” socket to remove 5 nuts securing control panel. Be sure spacers are still on post when replacing control panel.

11 ▪ Replacing Tower Door Sensor

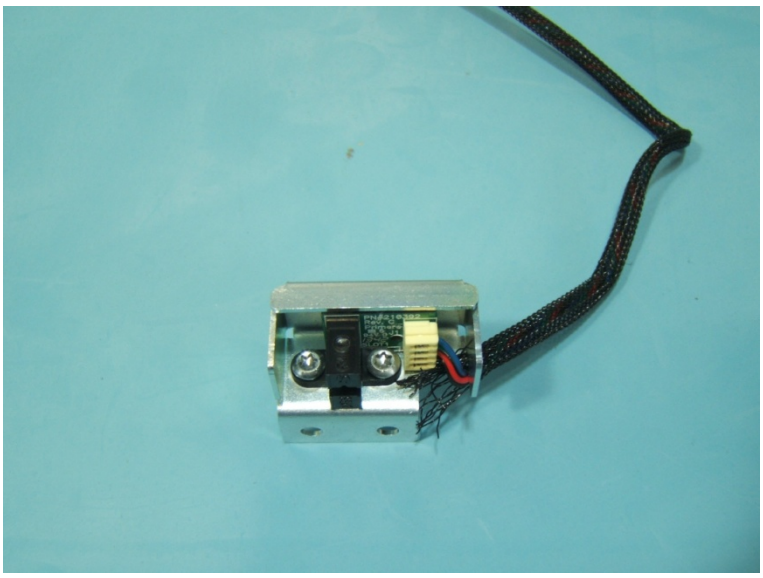
11.1

Disconnect tower door sensor cable from all wire saddles. Remove 2 screws securing door sensor bracket.



11.2

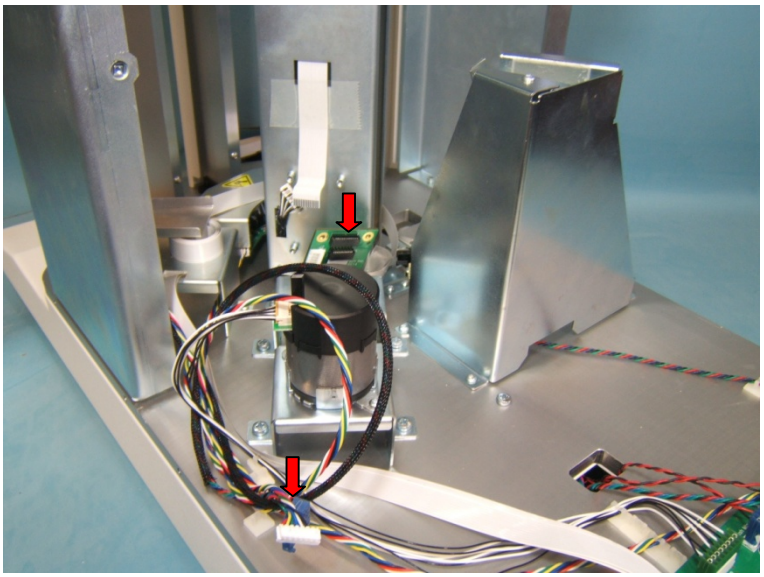
Remove 2 screws securing sensor to bracket. Replace sensor.



12 ▪ Removing Picker Tower

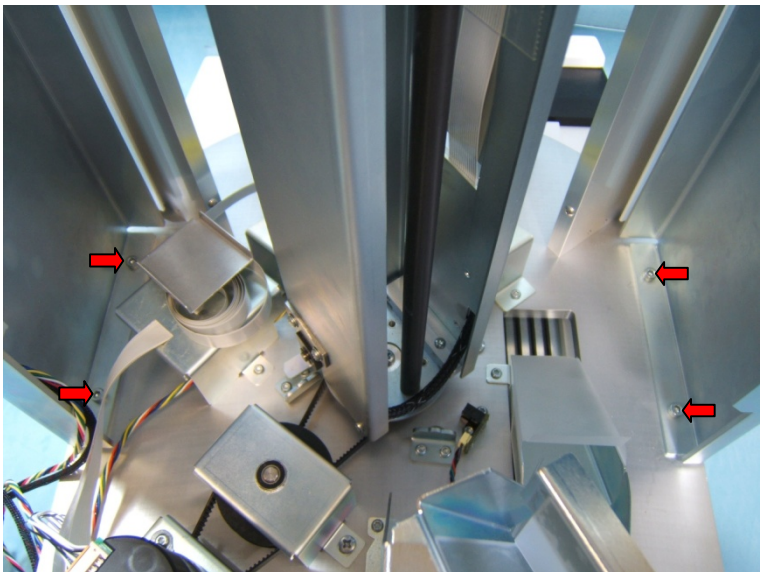
12.1

Unplug control panel and bin LEDs board cables from main board and remove from wire saddles on base plate. Remove 4 screws securing picker tower interface board. Unplug arm motion motor cable and picker arm ribbon cable from board.



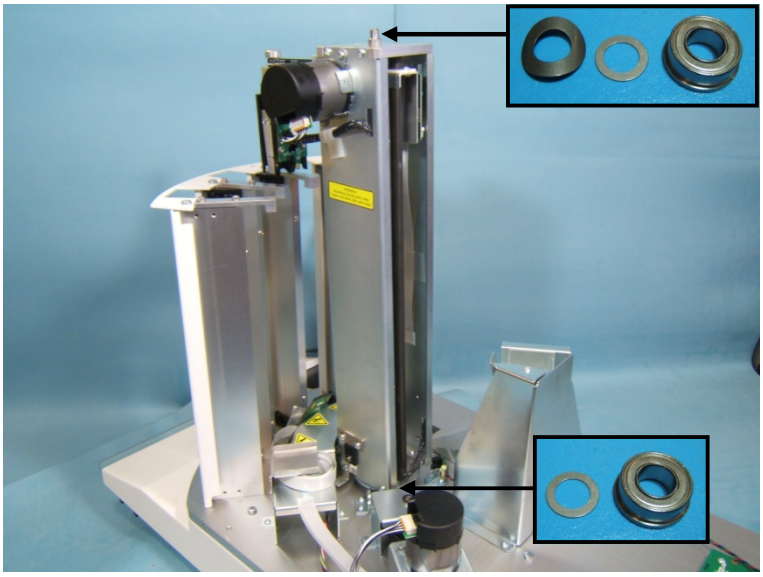
12.2

Remove 4 screws securing tower frame to base plate. Lift tower frame up off of unit.



12.3

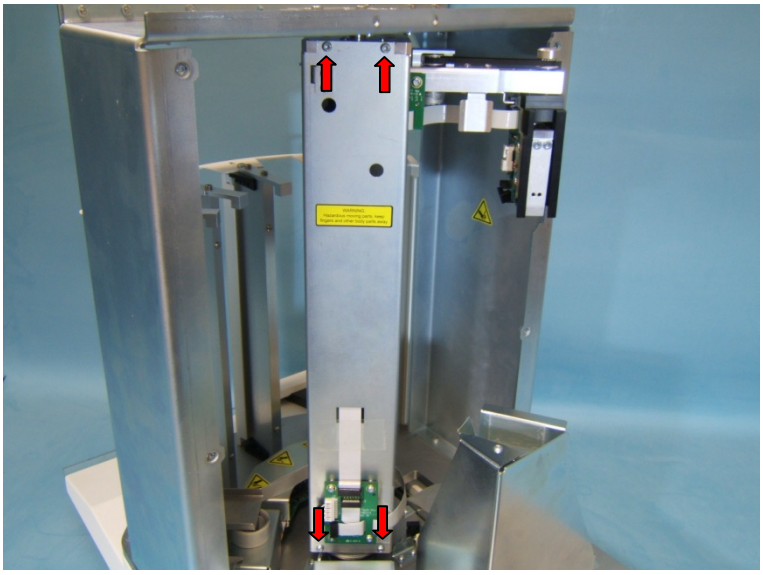
Lift picker tower up out of unit, unhooking belt from bottom. Keep track of bearings and washers. When replacing tower, be sure washer is on bottom bearing and curved washer (concaved down) followed by flat washer are on top post. Check calibration of picker tower (Section 3, page 4).



13 ▪ Replacing Picker Arm Interface Board

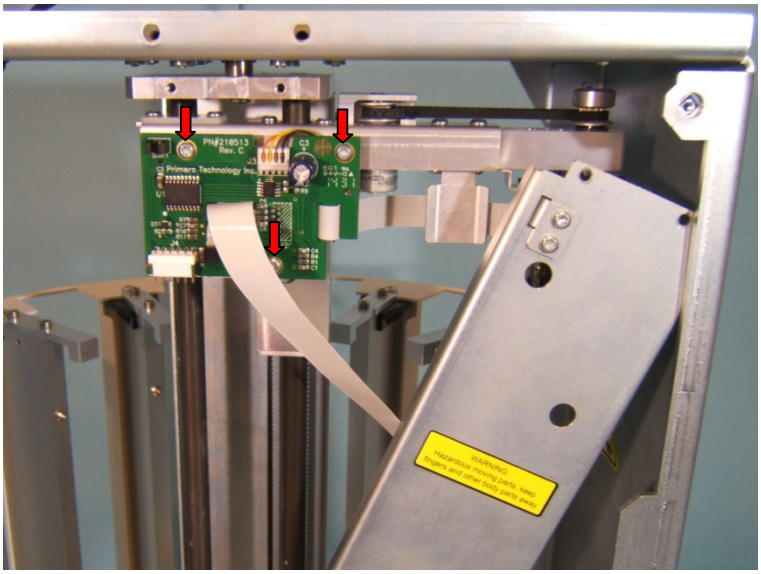
13.1

Remove 4 screws securing left frame.



13.2

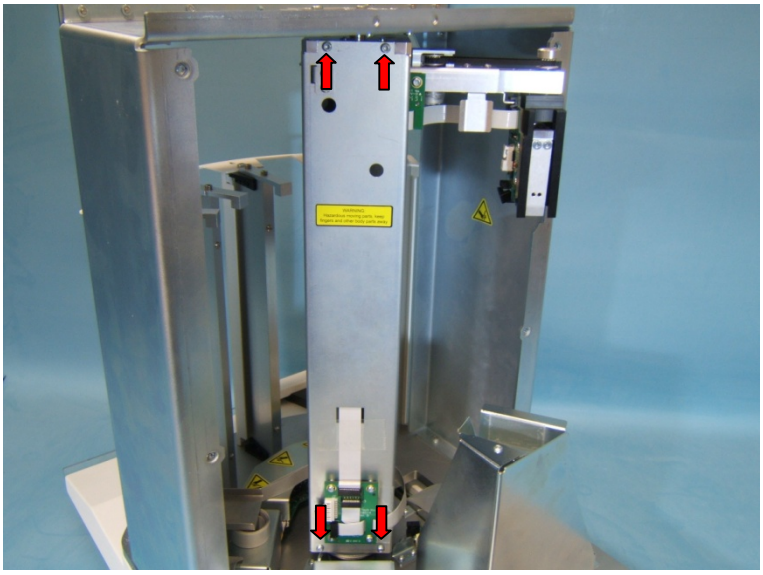
Remove 3 screws securing picker arm interface board. Unplug motor cable and both ribbon cables. Replace board, being sure route ribbon cables properly.



14 ▪ Replacing Head Rotation Motor

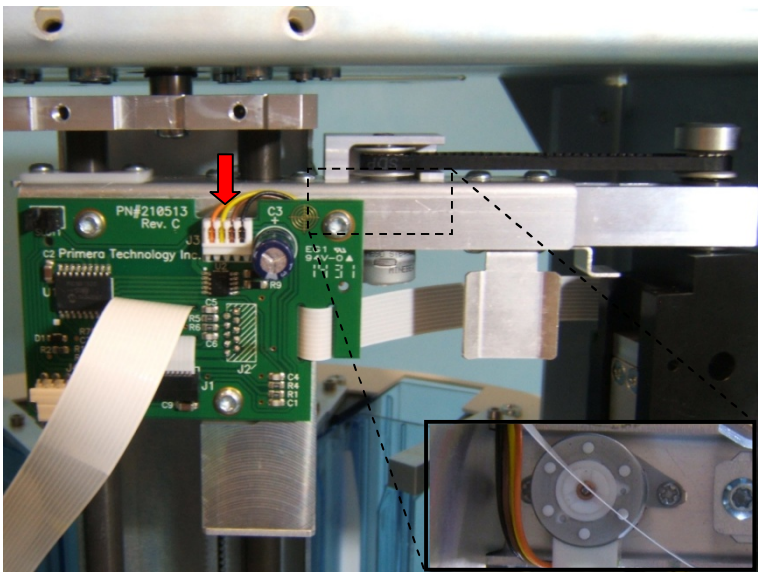
14.1

Remove 4 screws securing left frame.



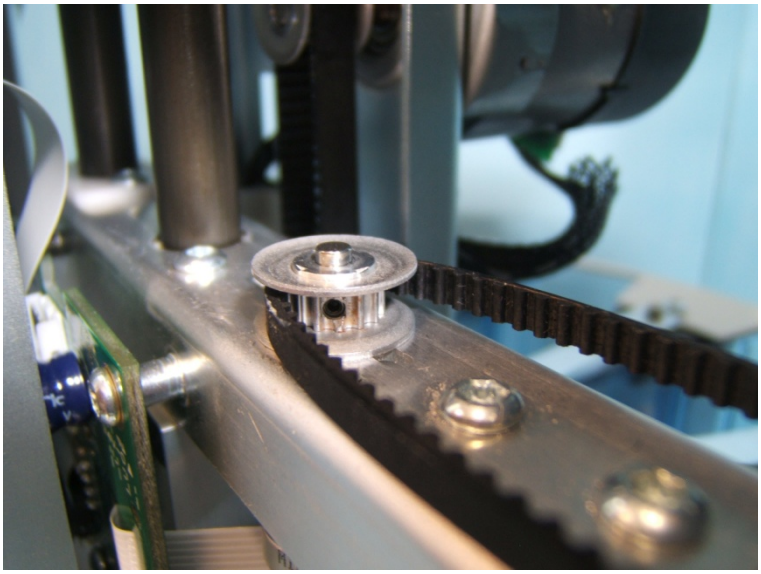
14.2

Unplug motor cable from board. Loosen screws securing board to get cable out from behind it. Remove 2 screws securing motor to underside of bracket (inset picture).



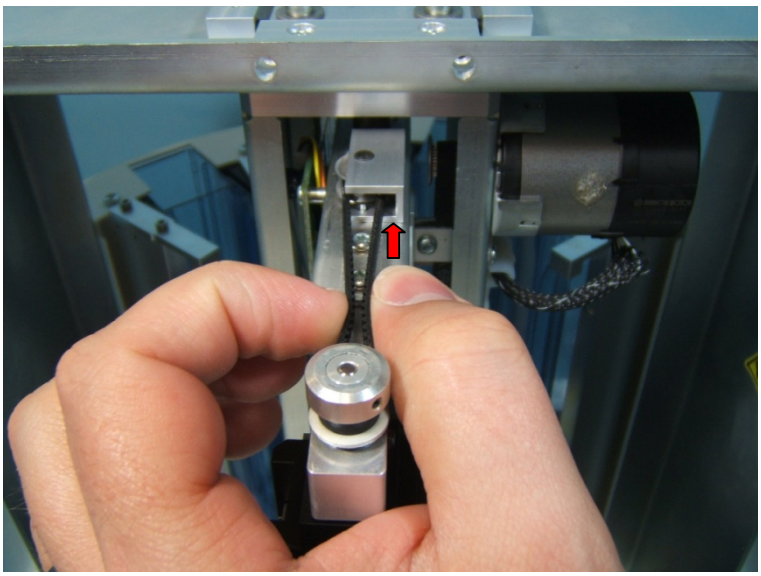
14.3

Remove set screw securing pulley to motor shaft. Replace motor and reconnect pulley (be sure set screw aligns with hole in shaft).



14.4

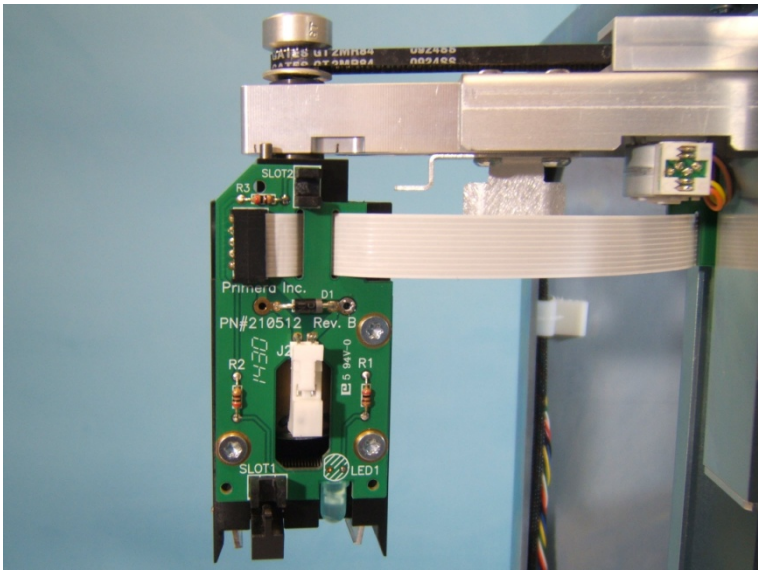
Replace bracket and secure along with motor. Press back slightly on bracket while tightening screws. Belt should have light tension and just barely touch when squeezed. Adjust pulley bracket if necessary. Be sure motor cable is routed behind board and between standoffs.



15 ▪ Replacing Picker Head Interface Board

15.1

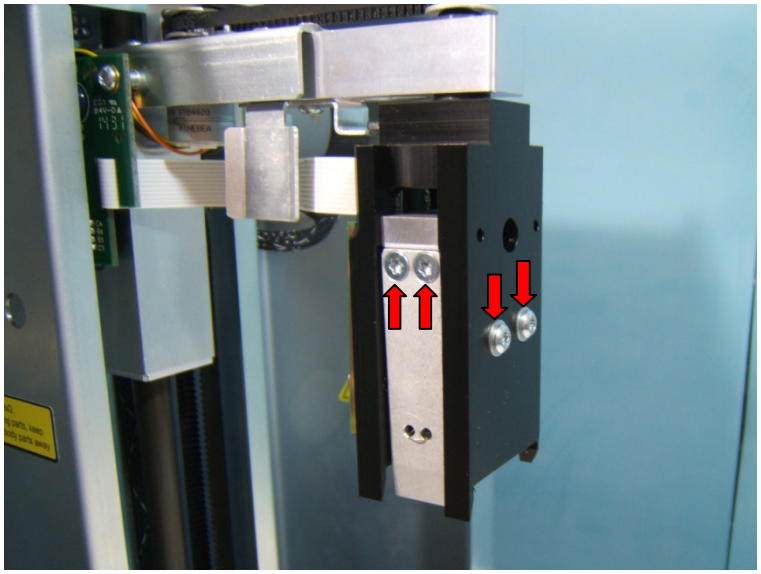
Apply power briefly to cause picker head to rotate out (bins must be in). Remove 3 screws securing board. Unplug solenoid and ribbon cable. Replace board and reconnect cables.



16 ▪ Replacing Solenoid

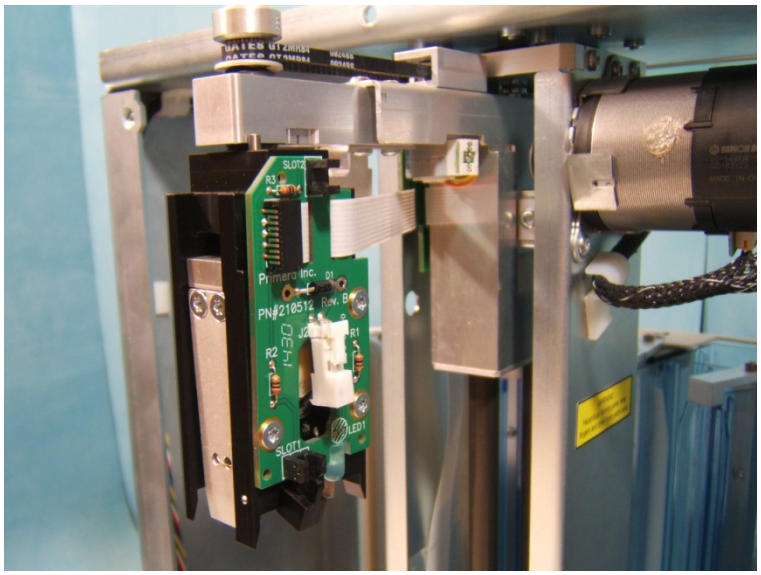
16.1

Remove 2 screws securing left picker finger. Remove 2 screws securing solenoid inside picker head.



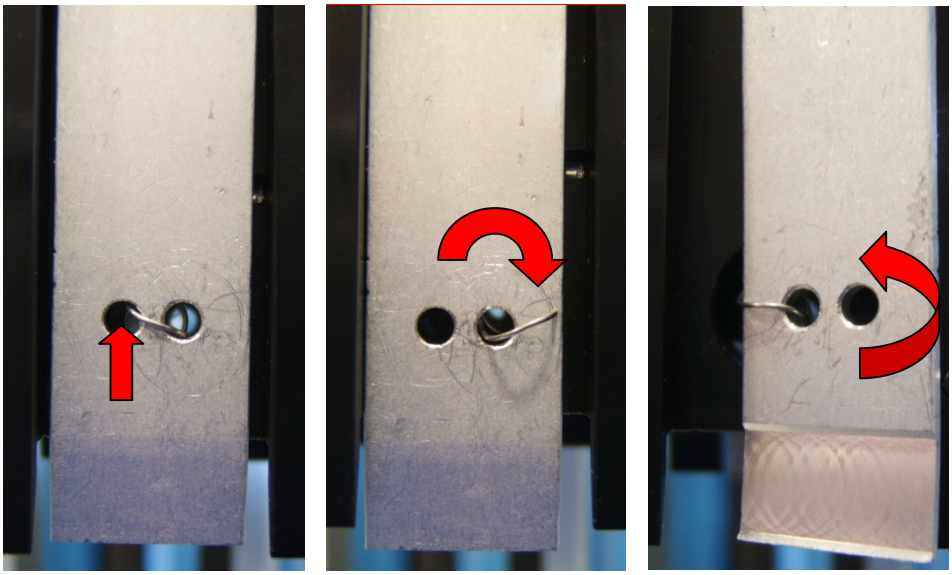
16.2

Apply power briefly to cause picker head to rotate out (bins must be in). Remove 3 screws securing board. Unplug solenoid from board. Remove 2 screws securing right picker finger.



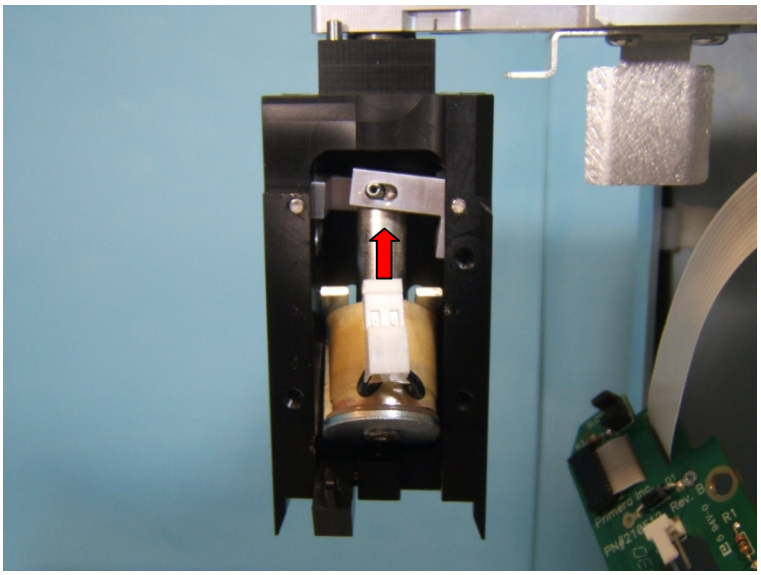
16.3

Use needle-nose pliers to grip end of spring on right picker finger. Rotate spring around 180°. Flip picker finger around and unhook spring. Remove spring and fingers from picker head.



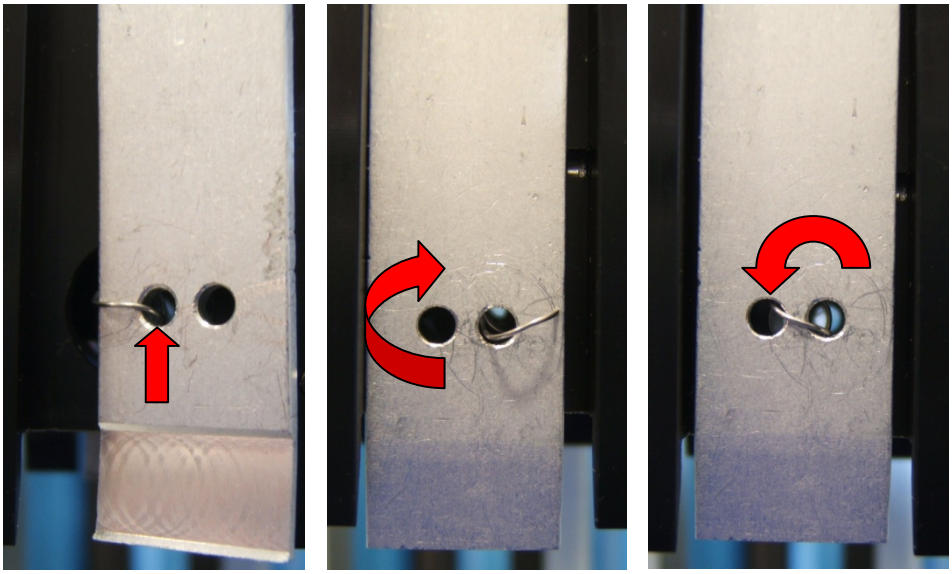
16.4

Lift up on solenoid plunger and pull solenoid down out of picker head. Replace solenoid and start both screws to hold in place. Secure board and plug in solenoid.



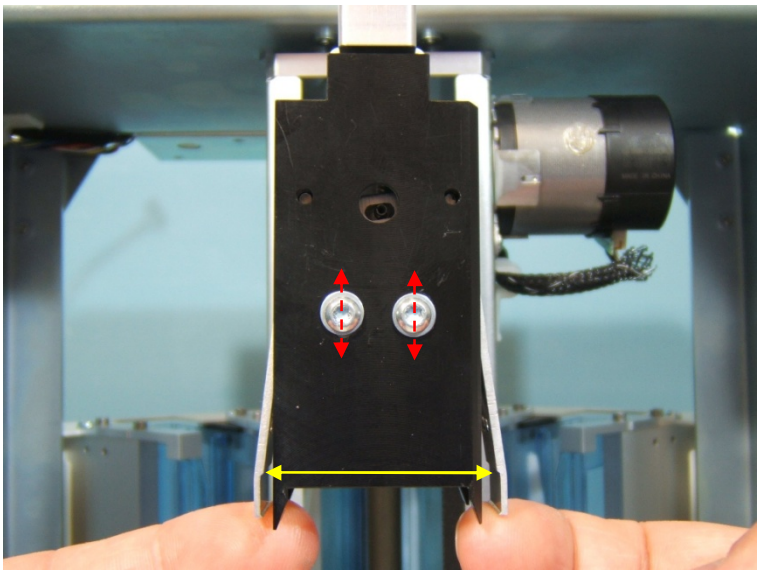
16.5

Hold left picker finger and place spring though picker. Reattach spring to right picker finger. Apply power briefly to cause picker head to rotate back in. Replace screws in both fingers.



16.6

Picker fingers should spread apart as far as shown when pulled. Raise or lower solenoid in picker head as necessary to adjust.



17 ▪ Removing Bottom Cover

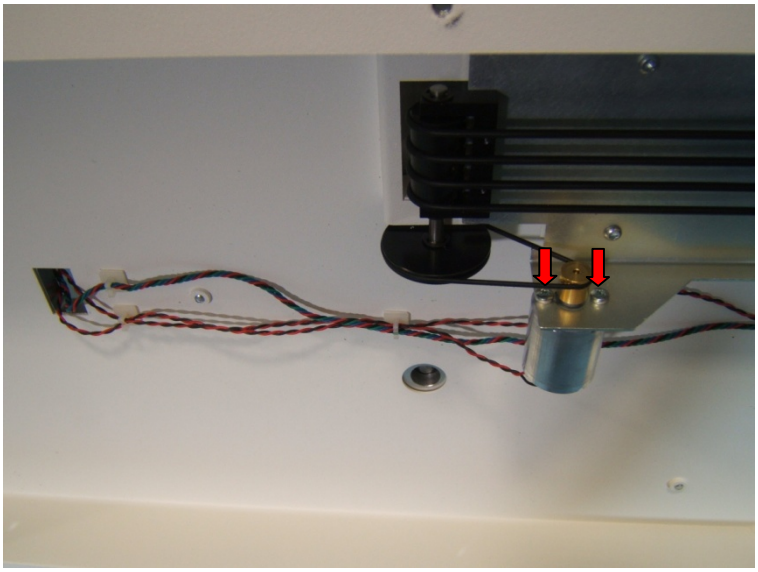
17.1

Carefully lay unit on side. Remove 6 bumper feet. Remove 4 screws securing bottom cover. Remove cover.

18 ▪ Replacing Cassette Output Motor

18.1

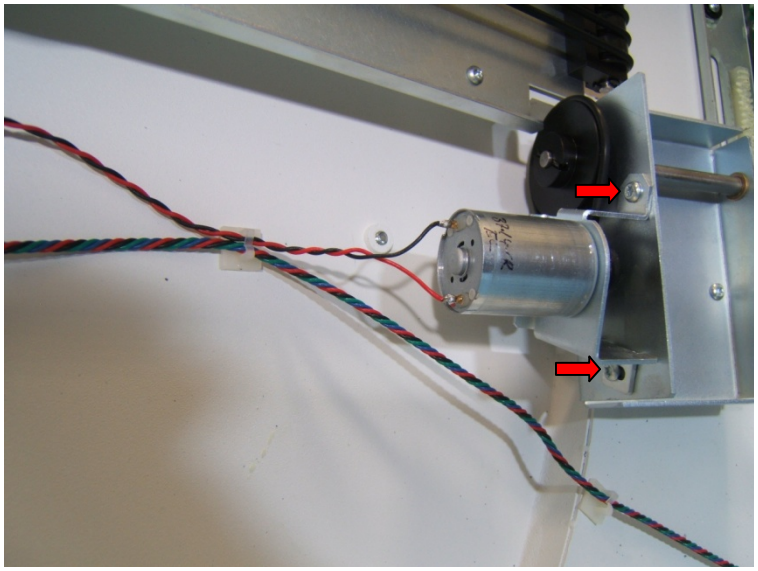
Remove 2 screws securing motor. Replace motor. Loop o-ring around pulley and route cable through wire saddles.



19 ▪ Replacing Push Bar Motor

19.1

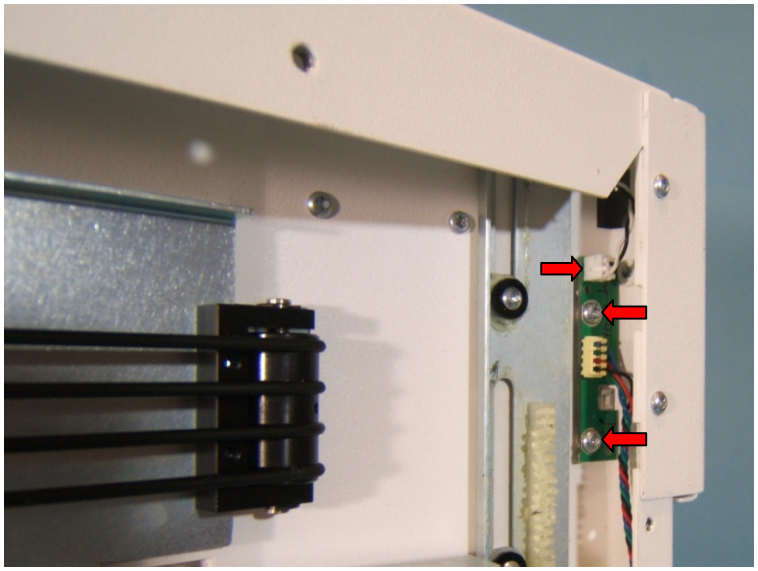
Remove 2 screws securing motor bracket. Replace motor. Loop o-ring around pulley and route cable through wire saddles.



20 ▪ Replacing Cassette Picker Lower Sensor

20.1

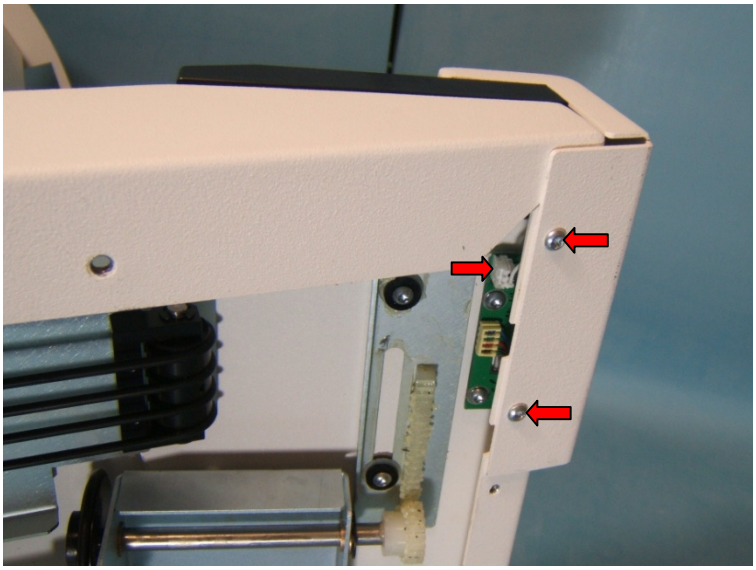
Unplug cable from sensor. Remove 2 screws securing sensor. Replace sensor and route cable through wire saddles.



21 ▪ Replacing Output Sensor LED

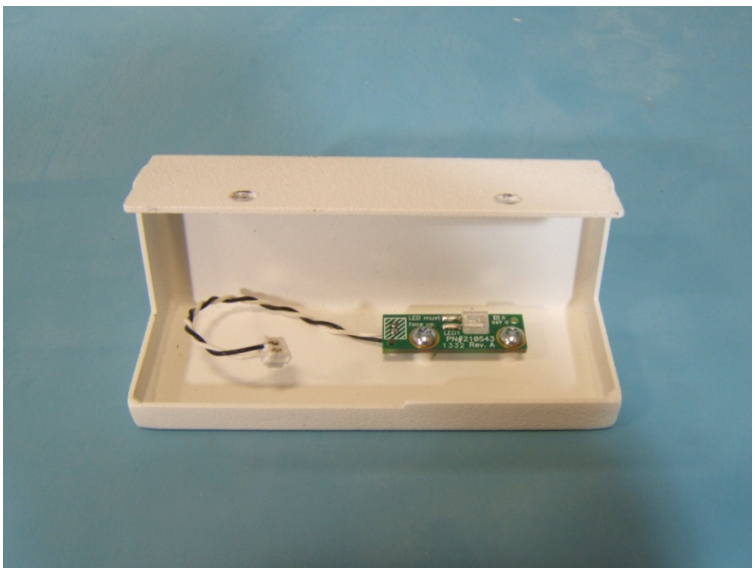
21.1

Unplug cable from sensor. Remove 2 screws securing output sensor cover. Remove cover.



21.2

Replace output sensor LED, making sure LED is pointing out. Replace cover, routing cable through unit and plugging into cassette picker lower sensor.



21 ▪ Troubleshooting

Symptoms During Initialization	Possible Solution
"Swing Motor Error" message on display Picker head rotation, no tower rotation	Replace arm rotation motor (Section 5)
"Flipper Motor Error" on display No tower movement, no picker head rotation	Replace picker tower interface board (Section 6)
Normal initialization, LEDs not illuminated	Replace bin LED board (Section 7)
With all bins inserted, display reads "Bin Not Installed"	Damaged bin sensor flag(s) (Section 8) Replace bin sensors board
Very slight tower movement "Swing Motor Error" message on display	Replace rotate head sensor (Section 9)
Normal initialization Display and buttons not illuminated No information displayed on control panel display	Replace control panel (Section 10)
Normal initialization and function when tower door is open	Replace tower door sensor (Section 11)
"Flipper Motor Error" on display No tower movement, no initialization, LEDs scroll as normal during initialization but do not stay solid like normal	Replace picker arm interface board (Section 13)
No picker head rotation "Flipper Motor Error" on display Grinding or no sound from head rotation motor LED on head illuminated	Replace head rotation motor (Section 14)
No picker head rotation LED on picker not illuminated "Flipper Motor Error" on display	Replace picker head interface board (Section 15)
Push Bar continues moving, otherwise normal initialization	Replace cassette picker lower sensor (Section 20)

Symptoms During Operation	Possible Solution
Normal initialization No audible click from solenoid when picking Head fails to pick and may flip or crush cassettes	Replace solenoid (Section 16)
Cassettes flipping and/or picker head unable to properly pick cassettes	Solenoid Connector (to Picker Head Interface Board) may be too far out from board, press in
"Cassette Lost on Conveyor" displayed Cassettes jam at end of chute, no push bar movement No output conveyor movement during initialization	Replace cassette output motor (Section 18)
"Cassette Lost on Conveyor" displayed Cassettes jam at end of chute, no push bar movement No push bar movement during initialization	Replace push bar motor (Section 19)
Push bar continues moving, otherwise normal initialization "Printing" on display but will not begin printing	Replace output sensor LED (Section 21)